

PUBLIC HEALTH LABORATORY SERVICE
(Directed by the Medical Research Council for the Ministry of Health)

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Central Enteric Reference Laboratory,
~~CENTRAL PUBLIC HEALTH LABORATORY,~~
COLINDALE AVENUE,
LONDON, N.W.9.

16th July, 1953.

Dear Josh,

I am enclosing herewith a table showing the susceptibilities of *Salmonella* strains other than *Salm. paratyphi B* to the paratyphoid-B typing phages. The phages were applied in two pools as indicated in the table, each phage in its routine test dilution, and it may well be that higher concentrations may yield wider cross reactions. For the sake of completeness Groups B and D are also included.

Unfortunately, one of the phages in Pool 2 ("Newburn") has now been discarded and is no longer available; I hope that the cross reactions were not due to this phage. Phage "Jersey" has been added to the group since the experiments were done in 1949 and was not therefore included in the cross tests.

The protocol shows a considerable cross reaction in Groups other than B and D. Pool 1 is evidently much more restricted in its host range than Pool 2.

The cross reactions of the *Salm. typhi-murium* typing phages were restricted to Groups B and D, so I have not included the record of tests with these phages.

I am forwarding under separate cover 10ml. of phage k, the date of preparation of which is on the bottle. The lysate was freed from the propagating strain of *Salm. typhi* by treatment with toluene. Careful sterility tests have so far failed to demonstrate viable typhoid bacilli in such preparations. Using our spot method of titration the titre of this preparation is 3×10^9 . Plaques are fairly easily visible but small on surface bacterial lawns; they may require a lens for satisfactory demonstration.

The spectrum of activity of this phage is very wide. It attacks every Vi-phage type of the typhoid bacillus except Types 28 and k; the latter, of course, is the strain from which the phage was isolated. It also lyses typhoid C 901 and *Salm. gallinarum*, but I have not yet examined its action on other *Salmonellas*.

I should be interested to know what success you have with this phage as a transducing agent.

With kind regards,
Andy.

Cross reactions of Salmonella paratyphi B typing phages
with heterologous Salmonellas.

Group	Salmonella Type	Pool 1 1, 2, 3a, 3aI, 3b	Pool 2 Beccles, Taunton Newburn (now discarded) Dundee, B.A.O.R.	Group	Salmonella Type	Pool 1 1, 2, 3a, 3aI, 3b	Pool 2 Beccles, Taunton Newburn (now discarded) Dundee, B.A.O.R.
B	abortus equi	++	++	D	sendai	++	++
	stanley	-	+		miami	++	++
	heidelberg	-	+		onarimon	-	++
	stanleyville	-	+		enteritidis danzysz	?	++
	bredeney	±	+		enteritidis jena	-	+
C	cholerae suis 1348	-	++		rostock	-	++
	cholerae suis kunzensdorf 5210	-	+		blegdam	±	±
	typhi suis 1847	-	++		pensacola	+	-
	daytona	-	++		clairbornei	-	±
	para C (9 stock cultures)	-	++		italiana	-	±
	manhattan	-	±		javiana	++	-
	virginia	-	±	E	muenster	-	+
	newport Puerto Rico	-	++		chittagong	-	+
	fay ^{ed}	-	++	G	wichita	-	+
	bovis morbificans	-	+	H	heves	-	+
	cornwallis	-	+	I	orientalis	-	+

++ = semi-confluent to confluent lysis
+) = diminishing degrees of reaction
±)